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Federal Communications Commission  
Washington, D.C. 20554

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JUN 17 1996

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

June 17, 1996

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
1919 M Street, NW  
Washington, DC 20554

Reference: CC Docket No. 92-297  
Written Ex Parte Presentation

Dear Mr. Caton:

In response to a my telephonic request, the enclosed correspondence from Hewlett Packard was faxed to me, Robert James of the Wireless Telecommunications Bureau, on a matter related to the pending proceeding in CC Docket No. 92-297. Three copies of this letter are enclosed.

Sincerely,

  
Robert James

No. of Copies rec'd at  
DATE

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**Hewlett-Packard Company**

Microwave Communications Group  
Wireless Systems  
1501 Page Mill Road  
Palo Alto, California 94304  
Tel: 415 857-8070

Fax: 415 857-3759

**RECEIVED****JUN 1 7 1996****FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY****FAX Cover Sheet**

To:	Bob James	From:	Doug Gray
Company:	FCC	Date:	Mar 29, 1996
Tel. Number:	202 418 0798	Number of Pages:	13
Fax Number:	202 418 2643		

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Bob:

Here is the information you requested.

I will be out of the office from April 1 through Monday, April 8, so I will not be available to address any questions that arise. I will check my voice mail from time to time but given the time difference may not be able to get back to you until I return on the 9th.

A handwritten signature in cursive script that reads 'D. Gray'.

Doug Gray  
Hewlett-Packard



Douglas A. Gray  
Hewlett-Packard Company  
Microwave Communications Group  
1501 Page Mill Road  
Palo Alto, California 94304  
Tel: 415 857-8070  
Fax: 415 857-3759

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JUN 17 1996

FEDERAL COMMUNICATIONS COMMISSION  
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March 29, 1996

Bob James  
Federal Communications Commission  
2025 M Street, N.W.  
Washington, DC 20554

Re: The use of the 31.0 -31.3 GHz band for LMDS upstream traffic

As per your request we have considered the impact of utilizing the 31.0-31.3 GHz band for upstream traffic in our LMDS system. As one would expect there are pros and cons associated with this alternative.

The pros are:

1. Using the band 27.5 - 28.35 GHz for downstream traffic and the 31.0 - 31.3 GHz band for upstream traffic provides greater separation between the transmit and receive signals. This puts less of a burden on the filters required to achieve the necessary isolation between the transmit and receive signals to minimize crosstalk between the transmitter and the receiver.
2. Depending on what additional services would be sharing the band, the rules for maximum EIRP and antenna masks might be less restrictive than they would be with the options that require sharing with MSS feeder links.

The cons are:

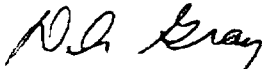
1. In order to minimize costs, particularly in the subscriber unit, we are designing all components so that they can be utilized in both the transmitter and receiver portions of the system. The 31 GHz band assignment would require increasing the bandwidth or alternatively using separate designs. Either option would result in higher costs.
2. The increased bandwidth would most certainly require the use of separate antennas for transmit and receive in order to achieve both the beamwidth desired and the sidelobe levels desired. Not having the option of using the same antenna for transmit and receive in the subscriber unit would add cost.
3. Standards for the interface between the subscriber unit and the set-top-box have been adopted by DAVIC. We intend to follow those standards, since again it will assure the lowest cost to the consumer. The IF has been established as 950-2050 MHz for downstream and 200-400 MHz for upstream. These frequencies need to be translated to 27.5-28.35 GHz and 31.0-31.3 GHz respectively in the LMDS.

subscriber unit. The increased separation would require additional signal processing at millimeter wave frequencies, another negative cost factor.

4. We would lose 4-8 months in time to redesign circuits to make use of the 31 GHz band. Our designs to date have assumed that the final spectrum allocation for upstream would be somewhere close to the 29.1 GHz band originally proposed in the 3rd NPRM.

Perhaps with more time we could think of ways to mitigate some of the cost factors identified above. However, based on this cursory analysis it is our conclusion that the cons outweigh the pros and that the alternative of using the 31 GHz band for upstream traffic could increase the costs of our subscriber unit by 10-20% and as a result would negatively impact the competitiveness of LMDS with other technologies.

Sincerely,



Douglas A. Gray  
Program Manager, Wireless Systems  
Microwave Communications Group  
Hewlett-Packard Company

cc: Cynthia Johnson  
Government Affairs Manager  
Hewlett-Packard Company